

## **North American Drought Monitor – March 2006**

**Canada:** Snowmelt was very active with warmer-than-average temperatures.

Snow conditions in central, southern and coastal BC were near or above average. There were no water supply concerns for the Okanagan, Kootenay, Similkameen, and Thompson basins, or for Vancouver Island and the South Coast. Spring and early summer streamflow runoff was forecast to be above average on Vancouver Island and the South Coast, near normal in the Okanagan and Kettle basins, slightly below average in the Thompson, Columbia, and Kootenay regions, and about 80% of average in the Similkameen basin. For northern BC, spring and early summer runoff was forecast to be only 70-85% of average (upper Fraser, Peace, Skeena basins). By April 1, on average, greater than 95% of the peak snowpack for the year has accumulated and this provides a generally good representation of water supply potential for the summer.

Moderate drought (D1) exists in the central and northern regions of Alberta and abnormally dry conditions extend into northern British Columbia. Because of the low snow accumulations in much of the plains area of Alberta, below average runoff was expected; however, spring snowmelt runoff was forecast to be average to above average for the Battle River area in central Alberta and the Lloydminster - Cold Lake area, while average runoff was expected for some central and east central areas of the province. Below- to much-below-average runoff was forecast for the Grande Prairie - Peace River area. Soil moisture reserves, estimated to be about 50 mm (two inches) below average in much of the Northwest and Peace River agricultural regions of Alberta, may impact farm cropping decisions.

The moderate drought conditions in northern Alberta extend into northwest Saskatchewan. Abnormally dry conditions exist in southeastern Saskatchewan and southwestern Manitoba, based on low precipitation totals since September 2005. Spring runoff volumes in Saskatchewan were forecast to be well below average in the southeastern corner bordering the U.S., below average in the southwest and along the western border with Alberta, and well above or above average in central and northern regions. In Manitoba, only minor flooding of valley lands was expected in most regions, including the Red River, with average weather conditions. However, much will depend on the rate of melt and any additional precipitation.

Based on trends of river flow volumes in Ontario and Quebec, which have ranged from average to above average, no shortages in flow volumes are projected at this time. Based on the limited snow accumulation in Atlantic Canada, the spring water supply may be affected unless average to above spring precipitation is received.

In Atlantic Canada abnormally dry (D0) conditions were defined based on the three-month SPI values, which have been very low in western New Brunswick, Prince Edward Island, Nova Scotia and western Newfoundland. With an early melt, the spring water supply and soil moisture may be affected unless average to above-average spring precipitation is received.

**United States:** During March, very dry weather in the East contrasted with generally wetter-than-normal conditions in the Central and Western States. March precipitation totals were among the ten lowest values on record in 15 Eastern States from Florida to Maine. It was the

driest March on record in Florida, Virginia, Maryland, Delaware, and New Jersey. Meanwhile, Utah observed its third-wettest March during the 112-year period of record (1895-2006).

March storminess briefly tempered the effects of an otherwise dry winter in Arizona and New Mexico. Despite the March rain and snow, Arizona still experienced its fourth-driest October-March period on record. Meanwhile, snowy weather bolstered favorable spring and summer runoff prospects across previously drought-affected areas of the Intermountain West and interior Northwest. Farther east, a severe windstorm raked the southern High Plains on March 12, raising dust and fanning huge wildfires. (The nation's year-to-date wildfire acreage topped 2.0 million by April 10, a significant increase from just over 0.5 million acres on March 6). A week later, rain provided some limited relief to the southern Plains' drought-stricken pastures and winter wheat. By month's end, dryness remained a concern as far north as the central High Plains, although a March 18-21 snowstorm and subsequent precipitation boosted soil moisture reserves in most areas from Kansas northward. In the Corn Belt, March precipitation aided Midwestern winter wheat and boosted soil moisture in preparation for spring planting. Meanwhile in the Arklatex region, downpours provided drought relief but caused local flash flooding. Despite March rainfall, the six-month span beginning in October 2005 was still among the ten driest such periods on record in Louisiana (sixth driest), Arkansas (seventh driest), and Oklahoma (tenth driest). Elsewhere, extremely dry conditions were observed along the Gulf Coast and in the Atlantic Coast States, resulting in numerous records for March dryness. March records from 1910 were broken in locations such as Baton Rouge, Louisiana (0.30 inch); Baltimore, Maryland (0.18 inch); and Washington, D.C. (0.05 inch). In Florida, Tampa's monthly total of a trace tied a March 1907 standard. In fact, March precipitation totaled less than 25 percent of normal from southern Louisiana to Florida and along the East Coast as far north as southern New England.

Abnormally dry (D0) conditions developed or expanded during March along the East Coast from Florida to Maine. Moderate drought (D1) spread across much of the Mid-Atlantic region, while severe drought (D2) developed in parts of central North Carolina. Farther west, exceptional drought (D4) expanded across southern Texas, but as many as two levels of improvement (from D4 to D2) were noted in portions of eastern Oklahoma, western Arkansas, and northeastern Texas. March improvement also took place in the Midwest, where the former severe drought (D2) area stretching from southeastern Nebraska to northern and western Illinois began to shrink. Only minor changes to the drought depiction were observed from late February through the end of March across the northern Plains and the Southwest.

**Mexico:** There were few surprises during March since most of northern and central Mexico continued to experience below-normal precipitation. The nationwide aeri ally averaged precipitation for the month was 27% below normal, and the Mexican Weather Service (SMN) ranked March 2006 as the 21<sup>st</sup> driest March since 1941. January to March 2006 was ranked as 7<sup>th</sup> driest such period since 1941.

In general, the first half of the month was very dry, while the second half of March featured some winter storms that moved eastward across the southwestern United States and produced some rain in northwestern Mexico (portions of Baja California and Sonora). Over central and eastern Mexico, a short period of rain associated with a stationary front brought some relief to

parts of Tamaulipas, Nuevo León and central Mexico, including Mexico City. At the end of March, the National Water Commission (CNA) reported that water supplies continued to generally decline. The sharpest declines were reported in five of the CNA administrative regions: Pacífico Norte, Noroeste, Cuencas Centrales del Norte, Río Bravo and Lerma-Santiago-Pacífico. These five regions account for more than 80% of total Mexican water storage. Nationally, reservoirs at the end of March were at 53.8% of capacity, down from 55.8% on 30 January 2006, and 74.3% at this time last year. Considering the period November 2005 - March 2006 (operationally used at the SMN to measure wintertime rains) all 13 CNA administrative regions received below-normal precipitation; the least affected region was Frontera Sur (mainly Tabasco and Chiapas), just 6% below normal. The largest deficit of winter rainfall was reported in the region Pacífico Norte (mainly Sinaloa), where precipitation was 90% below normal. The 2006 fire season continued as the second most active in the last 10 years, behind only 1998.

During March, the drought intensity increased across northwestern, western and central Mexico. Changes for March included the introduction of the exceptional drought (D4) category in northwestern Mexico, in an area that covers southern Sonora and northern Sinaloa; this region in Mexico had the largest rainfall deficit during the last five months, with only 10% of the normal precipitation. A small area of extreme drought (D3) was introduced in central Mexico along the Lerma Basin (Jalisco, Guanajuato, and Michoacan border). Severe drought (D2) conditions expanded in western and central Mexico, and in a strip along the border between Coahuila and Texas. Improvements were observed in the northwest corner of Baja California (the Tijuana, Tecate, and Ensenada area), where abnormally dry conditions (D0) were removed due to precipitation received during the second part of February and in March. Southeastern Mexico, including the Yucatan peninsula, is the only Mexican region without drought impacts.